

IN THE SPECIFICATION

Under the heading "CROSS-REFERENCE TO RELATED APPLICATION,"  
please amend the paragraph at page 1, lines 1 through 7 as follows:

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CROSS-REFERENCE TO RELATED APPLICATIONS

0' This application is related to and claims benefit of priority to (i) ~~European Patent Application No. 991125527.7, filed 01 July 1999,~~ (ii) ~~U.S. Provisional Patent Application Serial No. 60/142,534, filed July 7, 1999, entitled "AUTOPROTECTED OPTICAL COMMUNICATION RING NETWORK,"~~ and (iii) ~~European Patent Application No. 01-11594.8, filed 31 May 2000,~~ all of which ~~are~~ is incorporated herein by reference.

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On page 14, please replace the paragraph beginning at line 11 through page 15, line 19 with:

According to a further aspect, the present invention relates to a reconfigurable node for an autoprotected optical communication ring network, comprising a receiving/transmitting module including:

- C2
- a signal input for the insertion into the node of a signal including information to be transmitted in the network;
  - a signal output for the extraction from the node of a signal including information transmitted in the network;
  - a first transmitting transponder for optically coupling to a first carrier of the network and adapted to modulate a signal at a first wavelength;
  - a second transmitting transponder for optically coupling to the first carrier and adapted to modulate a signal at a second wavelength;
  - a third transmitting transponder for optically coupling to a second carrier of the network and adapted to modulate a signal at the first wavelength;
  - a first receiving transponder for optically coupling to the second carrier and adapted to demodulate a signal having the first wavelength;
  - a second receiving transponder for optically coupling to the second carrier and adapted to demodulate a signal having the ~~first~~ second wavelength;
  - a third receiving transponder for optically coupling to the ~~second~~ first carrier and adapted to demodulate a signal having the second wavelength;
  - reconfigurable optical connections to selectively connect:
    - the signal input either to the first transmitting transponder or to the third transmitting transponder;
    - the first receiving transponder to the third transmitting transponder;
    - the second receiving transponder to the signal output; and
    - the third receiving transponder either to the signal output or to the second transmitting transponder.

The receiving/transmitting module may further include:

- a further signal input for the insertion into the node of a signal including information to be transmitted in the network;
  - a further signal output for the extraction from the node of a signal including information transmitted in the network;
  - a fourth transmitting transponder optically coupled to the second carrier and adapted to modulate a signal at the second wavelength; and
  - a fourth receiving transponder optically coupled to the first carrier and adapted to demodulate a signal having the first wavelength;
- said reconfigurable optical connections selectively connecting:
- the first receiving transponder either to the third transmitting transponder or to the further signal output;
  - the fourth receiving transponder to the further signal output; and the further signal input either to the second transmitting transponder or to the fourth transmitting transponder.

On page 21, please replace the paragraph beginning at line 24 through page 22, line 4 with:

Node 20i includes a first and a second optical add/drop multiplexer (OADM) 4, 5 and a receiving/transmitting module 6 comprising:

- C3
- a first and a second signal input  $IN_1, IN_2$ ;
  - a first and a second signal output  $OUT_1, OUT_2$ ;
  - a first, a second, a third and a fourth transmitting transponder  $TxT_1(\lambda_x), TxT_1(\lambda_y), TxT_2(\lambda_x), TxT_2(\lambda_y)$ ;
  - a first, a second, a third and a fourth receiving transponder  $RxT_1(\lambda_x), RxT_1(\lambda_y), RxT_2(\lambda_x), RxT_2(\lambda_y)$ ;
  - a switch unit 15; and
  - a central processing unit (CPU) 16.

On page 24, please replace the paragraph beginning at line 7 through line 16 with:

C4

In detail, each receiving transponder  $RxT_1(\lambda_x), RxT_1(\lambda_y), RxT_2(\lambda_x), RxT_2(\lambda_y)$  may be of the type adapted to receive an optical signal from rings 2, 3, to transform it into electrical format for processing and to newly transform it into optical format, with a predetermined wavelength adapted for reception by a corresponding receiver  $RX_1, RX_2$ . Receiving transponders of this type are, for example, Pirelli Optical Systems RXT-DM/F (WaveMux6400 product family). Alternatively, the receiving transponders, like the transmitting transponders, may be completely optical devices (for example based on SOAs, Semiconductor Optical Amplifiers) managing information associated to the signal,

for example to a pilot tone over-modulating the optical wavelength carrying the signal.

On page 26, please replace the paragraph beginning at line 17 through page 27, line 2 with:

Switch unit 15 is over-dimensioned for the switching requirements of node 20i and it defines, in case of failure, some interconnections which are not operatively used. For example, while the first receiving transponder  $RxT_1(\lambda_x)$  is connected to the second receiver  $Rx_2$  under normal operative conditions, no connection is needed for the first receiving transponder  $RxT_1(\lambda_x)$  in case of failure on the external ring 2 on the right-hand side of node 20i (since no signal is received from this side). Taking into consideration this over-dimensioning of the switch unit functionality, it is possible to use, in place of the 2x2 switch type unit, other unit architectures which allow to optimize the number of interconnections in relation to the functional requirements. ~~The An interconnection requirements~~ example in node 20i under both normal and failure conditions (i.e. for working and protection) is summarized in the following table:

	$Rx_1$	$Rx_2$	$TxT_1(\lambda_x)$	$TxT_1(\lambda_y)$	$TxT_2(\lambda_x)$	$TxT_2(\lambda_y)$
$Tx_1$			W		P	
$Tx_2$				P		W
$RxT_1(\lambda_x)$		W				
$RxT_1(\lambda_y)$	P			<u>PW</u>		
$RxT_2(\lambda_x)$		P			<u>PW</u>	
$RxT_2(\lambda_y)$	W					

W=Working

P=Protection

On page 31, please replace the paragraph beginning at line1 through line 13 with:

ck  
Node 20j differs from the node 20i of Figure 3 in that the second signal input  $IN_2$ , the second transmitter  $TX_2$ , the second signal output  $OUT_2$ , the second receiver  $Rx_2$  the first receiving transponder  ~~$RxT_1(\lambda_x)$~~   $RxT_1(\lambda_x)$  and the fourth transmitting transponder  $TxT_2(\lambda_y)$  of node 20i are absent, and in that it includes a switch unit 115 which does not comprise the third and the fourth switch 24, 25 of switch unit 15. Therefore, differently from the architecture of Figure 3, the third receiving transponder  $RxT_2(\lambda_x)$  is directly coupled to the second input 22b of the first switch 22 and the second output 23d of the second switch 23 is directly coupled to the second transmitting transponder  $TxT_1(\lambda_y)$ . The single working link managed by node 20j includes signals sent by node 20j to another node at the working wavelength  $\lambda_{x,w}$  on the external ring 2 and signals received by node 20j from the other node at the working wavelength  $\lambda_{y,w}$  on the internal ring 3. Protection wavelengths  $\lambda_{x,p}$  and  $\lambda_{y,p}$  are managed in the same way as described before for the two-link node.

On page 49, please replace the paragraph beginning at line12 through line 16 with:

ck  
• Node C

Signal  $S_1$  is received via the first receiving transponder  $RxT_1(\lambda_x)$  and continues via the first transmitting transponder  $TxT_1(\lambda_x)$ .

Signal  $S_2$  is received via the fourth receiving transponder  $RxT_2(\lambda_y)$  and continues via the ~~first~~ fourth transmitting transponder  $TxT_2(\lambda_y)$ .